Please amend the claims as follows:

1. (currently amended) A system for transmitting signal packets, each of the packets having a destination address, from a source to two or more destinations, the system comprising:

a router having at least two address groups, said router coupled to receive packets, and to map each packet destination address to one of the address groups; and

a tunnel source having an input coupled to said router and having an output and wherein for the packets having an original destination address which belongs to the first address group of said router, the tunnel source assigns each packet it receives to one of a plurality of addresses, each address being associated with a tunnel destination wherein ~~each one of~~ the tunnel destination addresses ~~is~~ <u>are</u> mapped to <u>a plurality of output channels</u> ~~an output channel~~ and wherein for packets having an original destination address belonging to the second address group of said router are mapped onto a single output channel based upon their original address.

2. (previously presented) The system of claim 1 wherein a new address of a packet is based upon the state of the output channels.

3. (currently amended) The system of claim 1 wherein a new address of a ~~packets~~ <u>packet</u> is based upon Quality of Service requirements.

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4. (previously presented) The system of claim 1 where a new address of a packet is based upon traffic demands.

5. (previously presented) The system of claim 1 wherein: said tunnel source corresponds to an IP tunnel source; and said tunnel destination corresponds to an IP tunnel destination.

6. (currently amended) A method for transmitting signal packets from a source to two or more destinations, the method comprising:

receiving a plurality of packets in a router, each of the packets having a destination address,

mapping the destination address of each packet to one of a plurality of address groups in the router; and

for each packet, determining to which of the plurality of address groups in the router an original destination address of the packet belongs;

in response to the original destination address of the packet belonging to a first address group of the router, assigning each received packet to one of a plurality of addresses, each address being associated with a tunnel destination address with each one of the tunnel destination addresses being mapped to an output channel ,

in response to the original destination address of the packet belonging to a second address group of the router, mapping the original destination address of

<u>the packet onto a single output channel.</u>

7. (cancel)

8. (previously presented) The method of claim 6 wherein assigning each received packet to one of a plurality of addresses includes assigning an address of a packet based upon the state of the output channels.

9. (previously presented) The method of claim 6 wherein assigning each received packet to one of a plurality of addresses includes assigning an address of a packet based upon Quality of Service requirements.

10. (previously presented) The method of claim 6 wherein assigning each received packet to one of a plurality of addresses includes assigning an address of a packet based upon traffic demands.

11. (previously presented) The system of claim 6 wherein:

said tunnel source corresponds to an IP tunnel source; and

said tunnel destination corresponds to an IP tunnel destination.

12. (currently amended) An address allocation method comprising:

originating a <u>plurality of packets</u> ~~packet~~ at a first source address S, each of the packets having a destination address D wherein address D is an element of an address space F;

receiving the packet at a tunnel source wherein the tunnel source is coupled to a cable modem termination system (CMTS) via an interface having a first IP address (T1);

determining in the tunnel source that the packet has a destination address D which is an element of an address space F;

in response to the tunnel source determining that the packet has a destination address D which is an element of an address space F, dividing the packet into a plurality of sub-packets;

encapsulating each of the plurality of sub-packets, each of the encapsulated sub-packets having a source address and a destination address which define a tunnel between the tunnel source and a tunnel destination;

mapping each tunnel destination address onto a corresponding one of a plurality of cable channels; and

routing the encapsulated sub-packets via the appropriate tunnel to the tunnel destination.

13. (previously presented) The method of claim 12 further comprising: receiving the encapsulated sub-packets at the tunnel destination; combining the channels to provide the original packets; and forwarding the packets in their

original order to the destination.

14. (previously presented) The method of claim 13 wherein combining the channels comprises removing the encapsulation headers from each of the encapsulated sub-packets to again provide the original packets.

15. (previously presented) The method of claim 14 wherein encapsulating comprises: generating a new packet having a payload field; placing the original packet in the payload field of the new packet; and adding a new packet header to the new packet with the new packet header having a source address corresponding to the address T1 and a destination address corresponding to one of a plurality of separate IP interfaces on the tunnel destination and wherein the destination address is part of an L address space and wherein each address pair formed by the source address of the new packet header and the destination address of the tunnel defines a separate tunnel.